User's Manual

DXAdvanced R4

Daqstation DX1000/DX1000N/DX2000

Multi Batch Function (/BT2) User's Manual

vigilantplant®

YOKOGAWA
Yokogawa Electric Corporation

IM 04L41B01-03E
2nd Edition

Thank you for purchasing the Daqstation DX1000, DX1000N, or DX2000 (hereafter referred to as the DX).
This manual describes the operating procedure for the DX Multi Batch function (/BT2 option). Please use this manual in conjunction with the *DX1000/DX1000N User's Manual (IM04L41B01-01E)* or the *DX2000 User's Manual (IM04L42B01-01E)*.

Notes

- The contents of this manual are subject to change without prior notice as a result of continuing improvements to the instrument's performance and functions.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest YOKOGAWA dealer.
- Copying or reproducing all or any part of the contents of this manual without the permission of YOKOGAWA is strictly prohibited.
- The TCP/IP software of this product and the documents concerning it have been developed/created by YOKOGAWA based on the BSD Networking Software, Release 1 that has been licensed from the Regents of the University of California.

Trademarks

- vigilantplant, DAQSTATION, Daqstation, and DXAdvanced are registered trademarks of Yokogawa Electric Corporation.
- Microsoft and Windows are registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Adobe and Acrobat are registered trademarks or trademarks of Adobe Systems Incorporated.
- Kerberos is a trademark of the Massachusetts Institute of Technology (MIT).
- Company and product names that appear in this manual are registered trademarks or trademarks of their respective holders.
- The company and product names used in this manual are not accompanied by the registered trademark or trademark symbols (® and ™).

Revisions

1st Edition: November 2008
2nd Edition: March 2010

2nd Edition: March 2010 (YK)
All Rights Reserved, Copyright ©2008, Yokogawa Electric Corporation

Conventions Used in This Manual

Unit

K	Denotes 1024. Example: 768 KB (file size)
k	Denotes 1000.

Markings

Improper handling or use can lead to injury to the user or damage to the instrument. This symbol appears on the instrument to indicate that the user must refer to the user's manual for special instructions. The same symbol appears in the corresponding place in the user's manual to identify those instructions. In the manual, the symbol is used in conjunction with the word “WARNING” or “CAUTION.”

WARNING Calls attention to actions or conditions that could cause serious or fatal injury to the user, and precautions that can be taken to prevent such occurrences.

CAUTION Calls attentions to actions or conditions that could cause light injury to the user or damage to the instrument or user’s data, and precautions that can be taken to prevent such occurrences.

Note Calls attention to information that is important for proper operation of the instrument.

Subheadings

Bold characters — Denotes key or character strings that appear on the screen. Example: **Volt**

Aa#1 — Indicates character types that can be used.
A Uppercase alphabet, a lowercase alphabet, # symbols, 1 numbers.

Procedure
Explanation

Carry out the procedure according to the step numbers.
All procedures are written with inexperienced users in mind; depending on the operation, not all steps need to be taken.
Explanation gives information such as limitations related the procedure.

Setup Screen
Setup Items

Indicates the setup screen and explains the settings. A detailed description of the function is not provided in this section. For details on the function, see chapter 1.

Applicable Recorders

The models outlined in this section can be equipped with the Multi Batch function. In this manual, the terms “DX1000” and “DX2000” refer to the following models.
DX1000: DX1006, DX1012, DX1006N, and DX1012N
DX2000: DX2010, DX2020, DX2030, DX2040, and DX2048

What This Manual Explains

This manual explains the DX Multi Batch function. For details on the DX’s standard operations, see the *DX1000/DX1000N User’s Manual (IM04L41B01-01E)* or the *DX2000 User’s Manual (IM04L42B01-01E)*.
For details on the DX’s communication functions, see the *DX1000/DX1000N/DX2000 Communication Interface User’s Manual (IM04L41B01-17E)*.

This manual explains how to use the Multi Batch function on the DX1000. For the cases where the usage differs for the DX2000, this manual also explains how to use the Multi Batch function on the DX2000.

The following terms are used for references to other manuals:

User’s Manual:	Refers to DX1000/DX1000N User’s Manual IM04L41B01-01E or DX2000 User’s Manual IM04L42B01-01E.
Operation Guide:	Refers to DX Operation Guide IM04L41B01-02E or IM04L42B01-02E.
Communication Manual:	Refers to DX Communication Interface User’s Manual IM04L41B01-17E.
Advanced Security Manual:	Refers to DX Advanced Security Function (/AS1) User’s Manual IM04L41B01-05EN.

Contents

Conventions Used in This Manual ii
Applicable Recorders iii
What This Manual Explains iii

Chapter 1 Description of the Multi Batch Function

1.1 Recording and Saving Data 1-1
Outline 1-1
Recording and Saving 1-3
Operations You Can Perform on Each Batch 1-7
Changes to Features 1-7
1.2 Display 1-8
Batch Overview Mode 1-8
Batch Single Mode 1-10

Chapter 2 Settings

2.1 Settings for the Multi Batch Function 2-1
Specialized Settings for the Multi Batch Function 2-1
General Settings Other Than the Specialized Settings for the Multi Batch Function 2-1
Precautions: 2-1
2.2 Setting the Multi Batch Function 2-2
2.3 Using the Event Action Function 2-6
Setup Example: Starting and Stopping the Recording of Batch Group 2 2-6

Chapter 3 Operations

3.1 Starting/Stopping Recording, and Saving Data 3-1
3.2 Starting, Stopping, and Resetting Computations (/M1 and /PM1 Options) 3-6
3.3 Switching Between Batch Overview Mode and Batch Single Mode 3-8
3.4 Using Batch Overview Mode 3-9
3.5 Using Batch Single Mode 3-11
3.6 Writing Messages 3-13
3.7 Using the Favorite Key 3-15
3.8 Displaying Text Field Settings 3-16
3.9 Changing the FUNC Key Menu and the Display Selection Menu 3-17
3.10 Saving to USB Flash Memory (/USB1 Option) 3-18

Index

1.1 Recording and Saving Data

Outline

The Multi Batch function allows you to record and save the measured data from multiple batches separately (per batch). You can also apply the Multi Batch function to multiple consecutive processes.

The diagram on the following page gives a general overview of the Multi Batch function.

Number of Batches

The table below shows the number of batches supported by the DX. Each batch is known as a batch group.

Model	Number of Batches
DX1000	2 to 6
DX2000	2 to 12

Recordable Channels

On the trend, digital, and bar graph displays, channel data is displayed in preset groups. These groups are referred to as “display groups.”
The number of display groups that can be assigned to a batch group and the number of channels that can be assigned to a display group are indicated below. The same display groups are used for the trend, digital, and bar graph displays.
For each batch group, the measured data is displayed per display group. The DX records the data from the measurement channels, computation channels, or external input channels (only available on the DX2000) that are registered to the display groups.

Model	Number of Display Groups	Number of Channels You Can Register to a Single Display Group
DX1000	6	6
DX2000	12	10

The conditions for recording display or event data (scan interval, sampling interval, and data type) apply to all batch groups. Likewise, the conditions for saving data files (file save interval and save destination directory) apply to all batch groups.

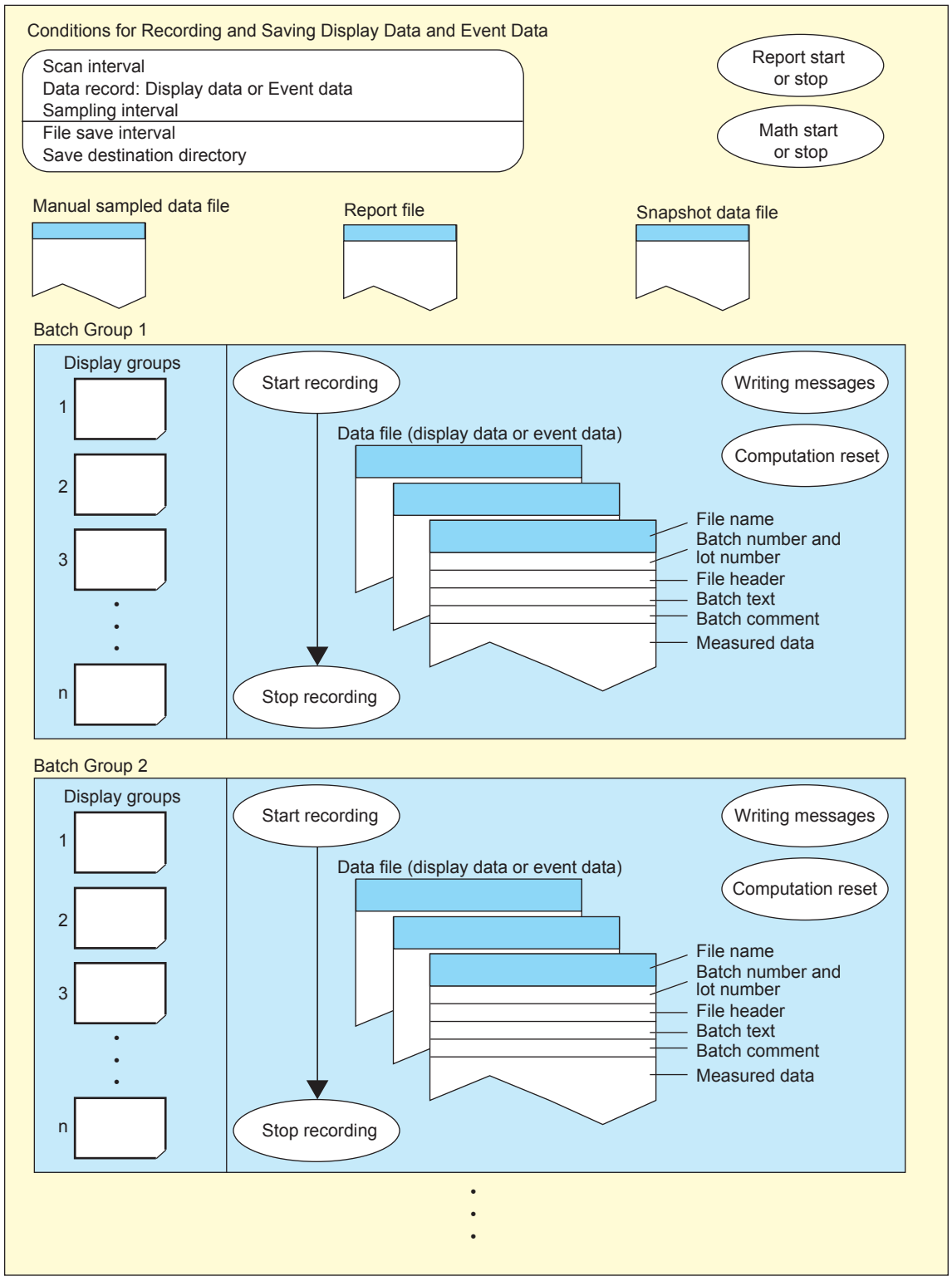
You can start and stop recording for each batch group individually. Other actions such as writing messages and resetting the values calculated on computation channels (/M1 and /PM1 options) can also be carried out for each batch group individually.

The computation and report functions (/M1 and /PM1 options) each start and stop simultaneously across all batch groups.

Display data and event data are saved per batch group. Batch numbers, lot numbers, file headers, batch text, batch comments, and other batch information are saved to files along with measured data.

Manual sampled data, report data, and snapshot data are all saved to their own individual files with no distinction between batch groups.

Multi Batch Function

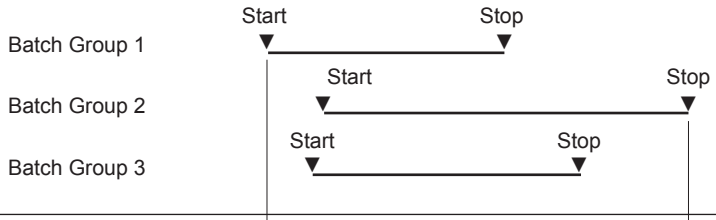
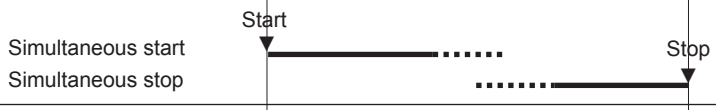


represents user actions.

Recording and Saving

Starting and Stopping Recording (Memory Sampling)

You can start and stop recording for each batch group individually. Or, you can start and stop recording across all batch groups simultaneously.

<table>
<tr><th>Feature</th><th colspan="3">Operation Example</th></tr>
<tr><td>Recording</td><td colspan="3">Start and stop batch groups individually
 
</td></tr>
<tr><td></td><td colspan="3">Simultaneous start and stop
 
</td></tr>
<tr><td>Report</td><td colspan="3">
</td></tr>
<tr><td>Computation</td><td rowspan="3">Starting computation using the START key (Math start of the Math start action)</td><td>Off</td><td>Do not start computation</td></tr>
<tr><td>Start</td><td>Start computation</td></tr>
<tr><td>Reset + Start</td><td>Reset and start computation</td></tr>
<tr><td>Instrument information output</td><td colspan="2">Relay output when recording stops</td><td>Relay output</td></tr>
</table>

- **Starting and Stopping a Report (/M1 and /PM1 Option)**
  The report feature starts when you start recording on any batch group and it stops when all batch groups stop recording.
- **Starting and Stopping Computation (/M1 and /PM1 Option)**
  - All computations start and stop together at the same time.
  - When computations are stopped, you can start recording and computation at the same time.

Math Start Action	Action	
Start	Starts computation.	
Reset+Start	When starting each batch group separately	Resets the values calculated on the selected batch group's computation channels*. Only the flags being used on the computation channels are cleared to zero. The DX then starts computation again.
	When starting all batch groups simultaneously	Resets the values calculated on all computation channels for the batch groups that are not recording*. Only the flags being used on the computation channels are cleared to zero. The DX then starts computation again.

* The computation channels registered to that batch group's display group.

  - You can stop computation at any time.

- **Relay Output when Stopping Recording (/F1 and /F2 Options)**
  When the relay action is set to memory sampling on a DX with the /AS1 advanced security option, relay output starts when memory start occurs for any of the batches, and relay output stops when memory stop occurs for all the batches.
  For an explanation of this feature's settings, see section 2.9 in the *User's Manual*.
- **Recording Conditions for Each Batch Group**
  You can use each batch group's recording status as variables (M01 to M12) in computations (/M1 and /PM1 options).
  For an explanation of this feature, see section 1.8 in the *User's Manual*.

Recording Display Data and Event Data

The following recording conditions are common to all batch groups. For details on the recording operation, see section 1.4 in the *User's Manual*.

Item	Description
Scan interval	1 second, 2 seconds, or 5 seconds. The same scan interval is used for all batch groups.
Data record	One of either display data or event data. The same type of data is recorded for all batch groups.
Display data	The same display data sampling interval (trend interval) is used for all batch groups.
Event data	Use Free mode when recording event data. You cannot select Trigger mode.
	The same event data sampling interval (sample rate) is used for all batch groups.

Recording Manual Sampled Data and Report Data (/M1 and /PM1 options)

The settings and behavior of these features are common to all batch groups. For details on manual sampled data and report data, see section 1.4 in the *User's Manual*.

Saving Measured Data to Storage Media

This section briefly explains how the DX saves various types of measured data to storage media. For shaded entries, the DX performs the same operation as a DX without the Multi Batch function. For details on saving measured data to storage media, see section 1.4 in the *User's Manual*.

Item		Description
Auto save	Display data	Saves the data from all batch groups to the specified save destination directory. The same file save interval for display data is used for all batch groups.
	Event data	Saves the data from all batch groups to the specified save destination directory. The same file save interval for event data (data length) is used for all batch groups.
	Manual sampled data	Saves the data to the specified save destination directory.
	Report data	
Saving data by pressing FUNC	Save display data	Saves the source batch group's display data that the DX is currently recording to files on the inserted CF card.
	Save event data	Saves the source batch group's event data that the DX is currently recording to files on the inserted CF card.
Manual save	Display data	Saves the data from all unsaved batch groups to the specified save destination directory.
	Event data	
	Manual sampled data	Saves the unsaved data to the specified save destination directory.
	Report data	
Saving data using keys		This operation is applicable when you insert a USB flash memory device or when you display the DX's memory summary and save data. For details, see section 3.10 in this manual or section 4.8 in the *User's Manual*.
Snapshot		Saves the screen image data to the inserted CF card.
Saving data via FTP	Display data and event data	Transfers the data for all batch groups to the specified initial path.
	Report data	Transfers the data to the specified initial path.
	Snapshot data	
Media FIFO		The DX performs a FIFO operation only when the following files are saved. Display or event data files for all batch groups, manual sampled data files, report files, and snapshot data files.

Data file

This section briefly explains the makeup of the data files. Shaded entries are the same as with DXs without the Multi Batch function.

Item		Description
Display data and event data	Measured data	Saves the data from each batch group to a separate file. Each batch group's alarm and message information is also saved.
	File header	The string specified for each batch group.
	Batch text	The string specified for each batch group.
	Batch comment	The string specified for each batch group.
Manual sampled data	Measured data	The measured data from all source channels.
	File header	Uses batch group 1's file header.
Report data	Report data	The source channel depends on the DX settings.
	File header	Uses batch group 1's file header.
Snapshot data file		The screen image data.

File Name

You can specify a different file name configuration for each batch group. For example, you can specify that batch group 1's file name is in the date configuration, and batch group 2's file name is in the batch configuration.
The file names for manual sampled data, snapshot data, and report data all follow the same configuration as that specified for batch group 1.

For all file name configurations, the sequence number portion of the file name for display data and event data differs from that used with a DX without the Multi Batch function. For details on file names, see section 1.4 in the *User's Manual*.

Configuration	Description	
Date	Display data	One character in the file name **sequence number** is allocated to identify the batch group. You can specify a different string to use in the file name per batch group. Other file name details are the same as with a DX without the Multi Batch function.
	Event data	
	Manual sampled data	The string used in the file name is the one specified for batch group 1. Other file name details are the same as with a DX without the Multi Batch function.
	Snapshot data	
	Report data	
Serial	Display data	One character in the file name **sequence number** is allocated to identify the batch group. You can specify a different string to use in the file name per batch group. Other file name details are the same as with a DX without the Multi Batch function.
	Event data	
	Manual sampled data	The string used in the file name is the one specified for batch group 1. Other file name details are the same as with a DX without the Multi Batch function.
	Snapshot data	
	Report data	
Batch	Display data	One character in the file name **sequence number** is allocated to identify the batch group. A separate batch name for each batch group is used. Other file name details are the same as with a DX without the Multi Batch function.
	Event data	
	Manual sampled data	File name details are the same as with a DX without the Multi Batch function.
	Snapshot data	
	Report data	

File name sequence number for display data and event data

Item	Description	
File name sequence number	**1-character batch group identifier** + **5-digit number** + **1-character delimiter**	
	Batch group identifier	A, B, C, D, E, F, G, H, J, K, L, or M (A is used for batch group 1, B is used for batch group 2, ... M is used for batch group 12).
	Number	A number that indicates the file's order of occurrence. The number ranges from 00001 to 99999. After 99999, the number returns to 00000.
	Delimiter	The delimiter is the same as with a DX without the Multi Batch function. For details on the delimiter used, see section 1.4 in the *User's Manual*.

File name examples

The following are file name examples for display data files.

Configuration	Example File Name for a Display Data File
Date	**A00123_AAAAA081201_173524.DAD** Batch group 1. The sequence number is "**A00123_**." The specified string is "AAAAA."
Serial	**B00123_AAAAA.DAD** Batch group 2. The sequence number is "**B00123_**." The specified string is "AAAAA."
Batch	**C00123_SAMPLE-1.DAD** Batch group 3. The sequence number is "**C00123_**." The batch name is "SAMPLE-1."

Operations You Can Perform on Each Batch

Writing Messages and Writing Free Messages

You can write different messages for each batch group.

For operating instructions, see section 3.6.

Computation Reset (/M1 and /PM1 Options)

You can reset the computed result on the computation channels in use for each batch group.

For operating instructions, see section 3.2.

Text Field Display

You can display text fields for each batch group.

For operating instructions, see section 3.8.

4-Panel Display (Only for the DX2000)

You can register and display four screens for each batch group.

For operating instructions, see section 4.10 in the *DX2000 User's Manual*.

Saving Display Data and Event Data

For operating instructions, see section 3.1.

Changes to Features

The following standard features differ between a DX with the Multi Batch function and a DX without it.

Feature	Description
Timer	You can use 12 timers.
Match time timer	You can use 12 match time timers.
Switching the trend interval	When the Multi Batch function is enabled, you cannot switch the trend interval (you cannot switch to the secondary trend interval).
Trend clear	When the Multi Batch function is enabled, the DX always clears the displayed waveform when recording starts.

1.2 Display

There is a batch overview mode and a batch single mode. In batch overview mode, information common to all batch groups is displayed. In batch single mode, information for each batch such as measured data and alarms is displayed.

Batch Overview Mode

This section outlines the information displayed in batch overview mode.

Name		Display Details	Reference
Status display section		See the following figure.	Section 1.3 in the *User's Manual*.
BATCH OVERVIEW		Shows the status of all batch groups. See the figure on the following page.	Section 3.3 in this manual.
CUSTOM DISPLAY		Customized display screen.	IM04L41B01-04E.
OVERVIEW		Shows the status of all channels.	Sections 1.3 and 4.4 in the *User's Manual*.
ANNUNCIATOR		Annunciator.	Section 3.12 in the *User's Manual*.
INFORMATION	MODBUS CLIENT	Shows the status of the MODBUS client.	Section 1.10 in the *Communication Manual*.
	MODBUS MASTER	Shows the status of the MODBUS master.	Section 2.6 in the *Communication Manual*.
	RELAY	Shows the status of the alarm output relays and internal switches.	Section 4.5 in the *User's Manual*.
	REPORT DATA	Report data.	Sections 1.3 and 4.5 in the *User's Manual*.
	COLUMN BAR	Stacked bar graph for the report data.	Section 4.10 in the DX1000 *User's Manual* and section 4.11 in the *DX2000 User's Manual*.
	EVENT SWITCH	Shows the status of the event level switches.	Sections 1.3 and 4.5 in the *User's Manual*.
LOG	LOGIN	Displays the history of the respective operation.	Section 4.9 in the *User's Manual*.
	ERROR		
	COMMUNICATION		
	FTP		
	MAIL		
	WEB		
	SNTP		
	DHCP		
	MODBUS		
	Operation log		
	Change settings log		

Status Display Section

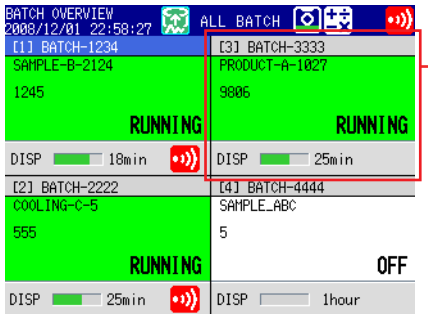
With the following exception, items shown in the status display section are the same as with a DX without the Multi Batch function.

Displays the batch mode.

ALL BATCH refers to batch overview mode.

For details on the status display section, see section 1.3 in the *User's Manual*.

Batch Overview



Single batch group
See below for details.
Sections outside of the range of the number of supported batch groups are displayed in grey.

Batch identification bar
Displays the batch identification number and file header.
Blue: Selected (by using the arrow keys).

Batch number

Lot number

Recording status
Green: Recording
White or Black:* Not recording
* Based on the background display settings. For more details, see section 5.12 in the *DX1000/DX1000N User's Manual* and section 5.13 in the *DX2000 User's Manual*.

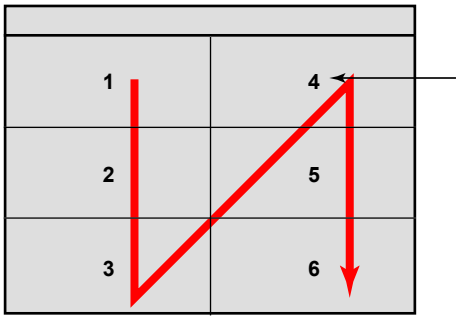
Alarm icon
Alarm status for the channels registered to the batch group.
Red: At least one alarm is activated.
Green: No alarms are activated.
Blinks the same way as the alarm icon on the status display section blinks.

Data type
Recording progress
Time remaining before data is automatically saved

Display Layout

Model	Number of Batch Groups	Display Layout Vertical × Horizontal
DX1000	2	1 × 2
	3 to 4	2 × 2
	5 to 6	2 × 3
DX2000	2 to 4	2 × 2
	5 to 6	2 × 3
	7 to 8	2 × 4
	9 to 12	3 × 4

Batch groups are assigned to windows starting with the left column. Batch groups are assigned in ascending order by their group number. The following example shows the case for six batch groups.



Batch Single Mode

This section outlines the information displayed in batch single mode.

Name		Display Details	Reference
Status display section		See the following figure.	Section 1.3 in the *User's Manual*.
TREND		The target batch group's trend display.	Sections 1.3 and 4.2 in the *User's Manual*.
TREND HISTORY		The target batch group's historical trend display.	Sections 1.3 and 4.3 in the *User's Manual*.
DIGITAL		The target batch group's digital display.	Sections 1.3 and 4.2 in the *User's Manual*.
BAR		The target batch group's bar graph display.	Sections 1.3 and 4.2 in the *User's Manual*.
CUSTOM DISPLAY		Customized display screen.	IM04L41B01-04E.
OVERVIEW		Shows the status of all channels for the target batch group.	Sections 1.3 and 4.4 in the *User's Manual*.
4-PANEL		4-Panel display for the target batch group.	Sections 1.3 and 4.10 in the *DX2000 User's Manual*.
INFORMATION	ALARM SUMMARY	Information regarding the alarm that occurred in the target batch group.	Sections 1.3 and 4.6 in the *User's Manual*.
	MESSAGE SUMMARY	Information regarding the messages written for the target batch group.	Sections 1.3 and 4.7 in the *User's Manual*.
	MEMORY SUMMARY	Information regarding data files saved to internal memory for the target batch group.	Sections 1.3 and 4.8 in the *User's Manual*.

Status Display Section

With the following exception, items shown in the status display section are the same as with a DX without the Multi Batch function.

For details on the status display section, see section 1.3 in the *User's Manual*.

DX1000

Batch identification number
[1] represents batch group 1.

The display group name and batch name are displayed alternately.

DX2000

Batch identification number and file header

The display group name and batch name are displayed alternately.

2.1 Settings for the Multi Batch Function

Specialized Settings for the Multi Batch Function

Enabling the Multi Batch Function

First, enable the Multi Batch function. The measured data in internal memory is cleared when you enable or disable the Multi Batch function. However, updating the number of batches used with the Multi Batch function does not clear the measured data in internal memory.

Settings for Each Batch Group

The settings you can change for each batch group are as follows. You can find these settings on the Multi batch tab in setting mode.

Display group, Trip line, File header, Data file name, and Batch text

General Settings Other Than the Specialized Settings for the Multi Batch Function

The settings in setting mode excluding those on the Multi batch tab, and the settings in basic setting mode are common to all batch groups.

Scan Mode

You cannot set the scan mode to FAST.

Event Actions

When the Multi Batch function is enabled, a portion of the actions in the event action function requires the designation of a specific batch group. For those types of actions, a box containing all the batch groups for you to select from is displayed.

Actions that require the designation of a specific batch group	MemoryStart/Stop, MemoryStart, MemoryStop, Message, SaveDIsplay, SaveEvent, MathReset, DisplayGroupChange.

Timer and Match Time Timer

For DXs with the Multi Batch function, you can use 12 timers and 12 match time timers.

Fixed Features

You cannot change the following settings.

Feature	Setting
Trend rate switching	Fixed to Off.
Trend clear	Fixed to On.

Precautions:

If even one batch group is recording, the following settings cannot be changed.

- Measurement range and memory sampling on/off for measurement channels.
- Expressions, constants, memory sampling on/off, and TLOG for computation channels (/M1 and /PM1 options).
- Measurement range and memory sampling on/off for external input channels (on DX2000s with the /MC1 option).
- Trend interval.
- Event data.

The following settings cannot be changed while their applicable batch group is recording.

- Batch text
- Display group
- Trip line

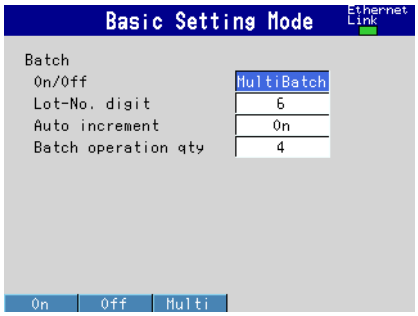
For information about changing settings during recording on DXs with the /AS1 advanced security option, see section 6.4 in the *User's Manual*.

2.2 Setting the Multi Batch Function

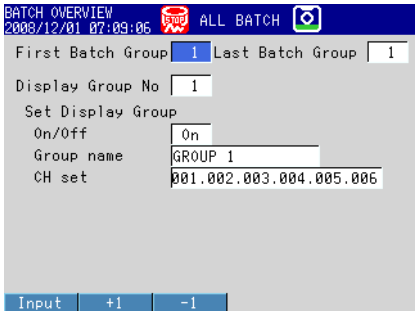
This section explains the specialized settings for the Multi Batch function. For details on other settings, see the *User's Manual*.

Setup Screen

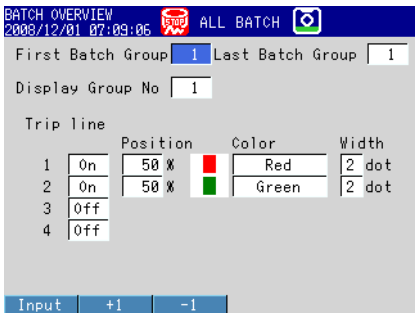
- **Multi Batch Function**
  Press **MENU** (to switch to setting mode), hold down **FUNC** for 3 s (to switch to basic setting mode), and select the **Environment** tab > **Batch**.



- **Group Set, Trip Line**
  Settings for the DX1000
  Press **MENU** (to switch to setting mode), and select the **Multi batch** tab > **Group set, Trip line** > **Group set**.
  * You can also display the Multi batch tab's setup screen by selecting the **Menu** tab > **Group set, Trip line** > **Group set**.



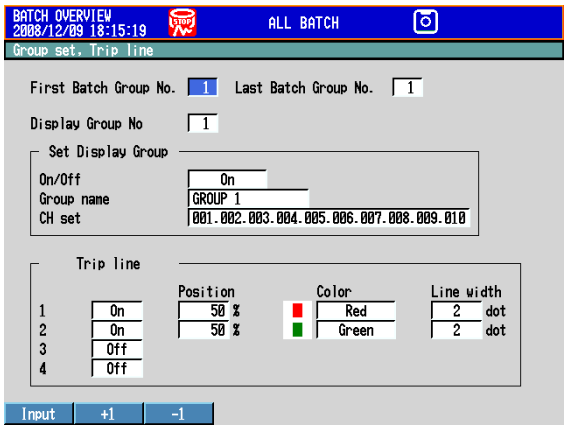
  Press **MENU** (to switch to setting mode), and select the **Multi batch** tab > **Group set, Trip line** > **Trip line**.
  * You can also display the Multi batch tab's setup screen by selecting the **Menu** tab > **Group set, Trip line** > **Trip line**.



Settings for the DX2000

Press **MENU** (to switch to setting mode), and select the **Multi batch** tab > **Group set, Trip line**.

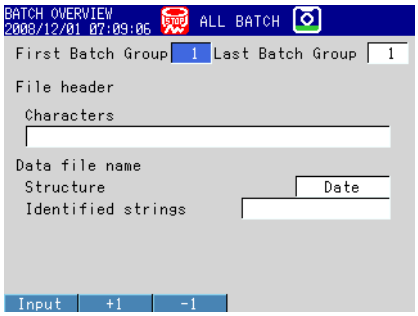
* You can also display the Multi batch tab's setup screen by selecting the **Menu** tab > **Group set, Trip line**.



- **File Header and Data File Names**

  Press **MENU** (to switch to setting mode), and select the **Multi batch** tab > **File header, File name**. For the DX2000, select the **Multi batch** tab > **File header, Data file name**.

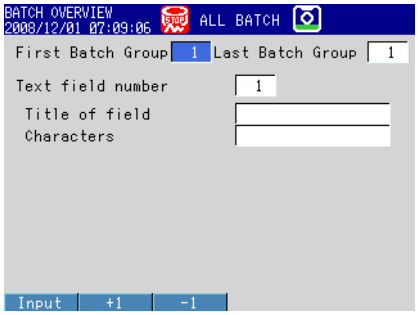
  * You can also display the Multi batch tab's setup screen by selecting the **Menu** tab > **Data save** > **File header, File name**.



- **Batch Text**

  Press **MENU** (to switch to setting mode), and select the **Multi batch** tab > **Batch text**.

  * You can also display the Multi batch tab's setup screen by selecting the **Menu** tab > **Data save** > **Batch text**.



Setup Items

- **Batch > On/Off**
  Select Multi Batch.

Setting	Description
On	Enables the single batch feature. For details, see section 6.3 in the *User's Manual*.
Off	Disables the batch feature.
MultiBatch	Enables the Multi Batch function.

- **Batch > Lot-No. digit**
  Set the lot number digits to 4, 6, or 8. Select Off to disable lot numbers.

- **Batch > Auto increment**

Setting	Description
On	Automatically sets the lot number of the next measurement to the current lot number + 1.
Off	Turns auto increment off.

- **Batch > Batch operation qty**
  Specify the number of batches to use. The number of batches specified with this setting corresponds to the number of batch groups you can use.

Model	Number of Batches Supported
DX1000	2 to 6
DX2000	2 to 12

- **First Batch Group and Last Batch Group**
  Select the target batch groups.

- **Display Group No**
  Select the target display group number.

Model	Display Group Number
DX1000	1 to 6
DX2000	1 to 12

- **Set Display Group > On/Off**
  Select On for the display groups that you want to display.

- **Set Display Group > Group name**
  Set the group name. (Up to 16 characters, Aa#1)

- **Set Display Group > CH set**
  Set the channel numbers for measurement, computation (/M1 and /PM1 options), and external input (on DX2000s with the /MC1 option) channels.

Model	Maximum Number of Channels
DX1000	6
DX2000	10

  - Enter the channel number using two or three digits.
  - Separate each channel with a period.
  - To specify a range of consecutive channel numbers, use a hyphen.
    Example: To assign channels 1 and 5 to 8, enter "001.005-008."

- **Trip line > 1, 2, 3, 4**
  Select On for the trip lines that you want to display.

- **Trip line > Position**
  Set the position in the range of 0 to 100% of the display width.

- **Trip line > Color**
  The default colors are red, green, blue, and yellow. If want to change a color, you can select from 24 available colors.

- **Trip line > Width**
  Set the line width of the trip line in dots (1 to 3).

- **File header > Characters**
  Enter a header comment to write into data files. The file header is displayed on the batch overview screen's batch identification bars, the status display section for batch single mode (only for the DX2000), and the title bar for the start and stop recording screens. (Up to 50 characters, Aa#1)

- **Data file name > Structure**
  Sets the structure of the file name when saving data.

Setting	Description
Date	Sequence number + user-assigned character string + date
Serial	Sequence number + user-assigned character string
Batch	Sequence number + batch name

- **Data file name > Identified strings**
  Set the user-assigned character string. (Up to 16 characters, Aa#1)
  You can use these symbols: # % ( ) + – . @ ° _
  For an explanation of data file names, see section 1.1.

- **Text field number**
  Select the text field number from 1 to 24.

- **Text field > Title of field, and Text field > Characters**
  Enter a character string.
  Title of field: you can enter up to 20 characters for the field title. Aa#1
  Characters: you can enter up to 30 characters for the field information. Aa#1

2.3 Using the Event Action Function

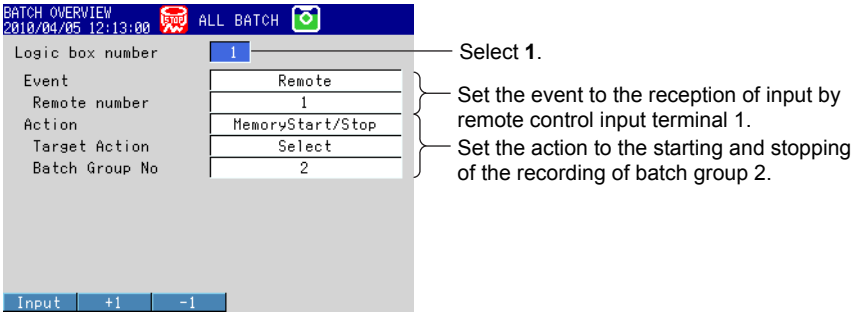
The event action function performs a specified action when a specified event occurs. For example, you can use the event action function to write a message when an alarm occurs. When you use the multi batch function, you have to specify the batch group to perform the action on. In the above example, you could configure the DX to write a message to batch group 2 when an alarm occurs. When you configure an action that requires you to specify a batch group, a box for selecting the batch group is displayed.

Setup Example: Starting and Stopping the Recording of Batch Group 2

In the example below, the remote control function (/R1 and /PM1 options) is used to start and stop the recording of batch group 2 according to the input received by remote control input 1. Logic box number 1 is used.

- **Setup Screen and Setup Items**

Press **MENU** (to switch to setting mode), and select the **Menu** tab > **Timer, Event action** > **Event action.**



* Setting **Target Action** to **All** specifies all the batch groups.

<Operation>

Starts and stops the recording of batch group 2 according to the input signal received by remote control input terminal 1.

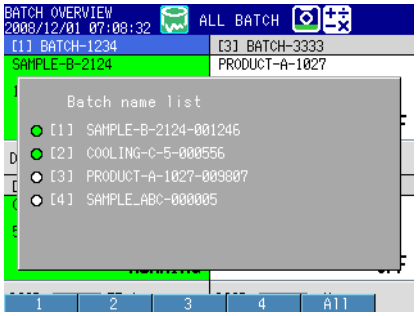
3.1 Starting/Stopping Recording, and Saving Data

Procedure

- **Starting Recording from Batch Overview Mode**
  Follow the procedure below when the batch overview mode screen is displayed.

  1. Press **START**.
  The batch group selection window appears.
  * On DXs with the /AS1 advanced security option, recording will not start, even if you press START in setting mode.

  2. Press the numeric **soft keys** that represent the batch groups you want to start recording.



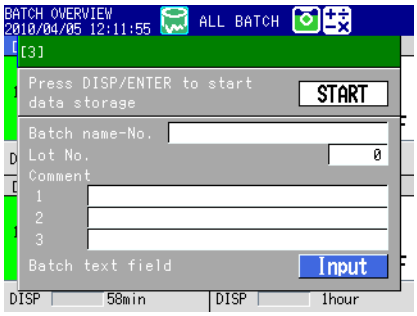
Green: Recording
White or Black: Not recording

Setting	Description
1, 2, 3, ...	The batch group number.
All	All batch groups currently not recording.

The start recording screen appears.

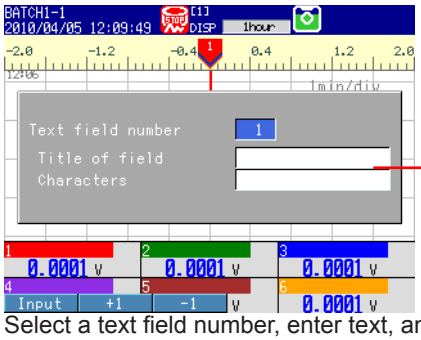
When You Select a Single Batch Group

3. Confirm or change the batch number (Batch name-No.) and lot number, and enter comments for the batch.



To edit the contents of a text field, proceed to step 4.

4. Select **Input**, and press **DISP/ENTER**. The text field screen of the specified batch group appears (release numbers 4 and later).



Select a text field number, enter text, and press **DISP/ENTER**.
The start recording screen will appear.

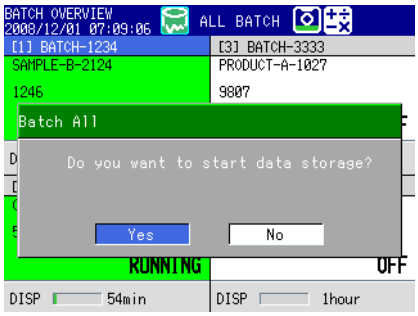
The text fields that you specify here will only be saved to the measured data file whose recording you are starting. The text fields that you set in setting mode (see page 6-6) will not change.

5. Move the cursor (blue) to START, and press **DISP/ENTER**.
Recording starts for the selected batch group. The internal memory icon in the status display section changes from the icon that indicates that memory sampling is stopped to the icon that indicates that memory sampling has started.

For details on starting reports and computations, see section 1.1.

When You Select All

3. Select **Yes**, and press **DISP/ENTER**.
The DX starts recording.



For details on starting reports and computations, see section 1.1.

- **Starting Recording from Batch Single Mode**

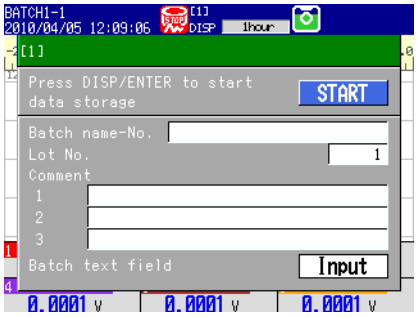
  Follow the procedure below when the batch single mode screen is displayed.

  1. Press **START**.

  The start recording screen appears.

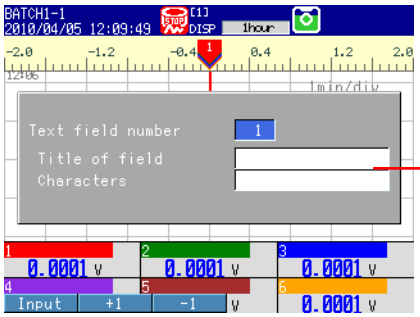
  * On DXs with the /AS1 advanced security option, recording will not start, even if you press START in setting mode.

  2. Confirm or change the batch number (Batch name-No.) and lot number, and enter comments for the batch.



  To edit the contents of a text field, proceed to step 3.

  3. Select **Input**, and press **DISP/ENTER**. The text field screen of the specified batch group appears (release numbers 4 and later).



The settings that you made in setting mode appear here.

  Select a text field number, enter text, and press **DISP/ENTER**.
  The start recording screen will appear.

  The text fields that you specify here will only be saved to the measured data file whose recording you are starting. The text fields that you set in setting mode (see page 6-6) will not change.

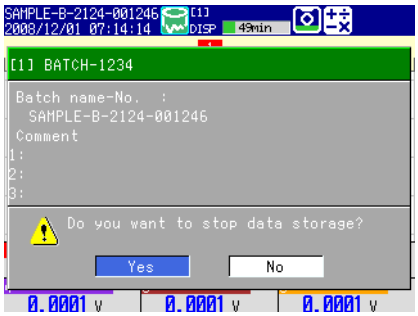
  4. Move the cursor (blue) to **START**, and press **DISP/ENTER**.

  Recording starts for the selected batch group. The internal memory icon in the status display section changes from the icon that indicates that memory sampling is stopped to the icon that indicates that memory sampling has started.

For details on starting reports and computations, see section 1.1.

- **Stopping Recording from Batch Overview Mode**

1. Press **STOP**.
   The batch group selection window appears.
2. Press the numeric **soft keys** that represent the batch groups you want to stop recording.



Green: Recording
White or Black: Not recording

Setting	Description
1, 2, 3 ...	The batch group number.
All	All batch groups currently recording.

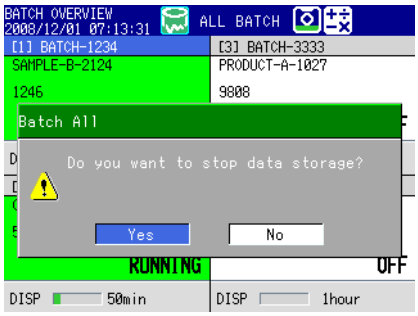
The stop recording screen appears.

When You Select a Single Batch Group

3. Use the **arrow keys** to move the cursor to **Yes**, and press **DISP/ENTER**.
   Recording stops for the selected batch group. When all batch groups stop recording, the report function (/M1 and /PM1 options) also stops.

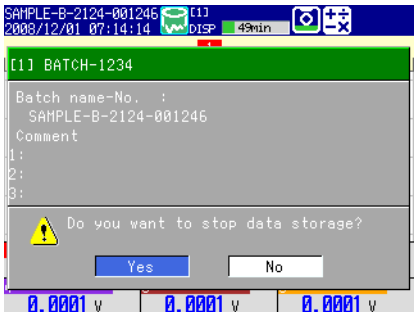
When You Select All

3. Use the **arrow keys** to move the cursor to **Yes**, and press **DISP/ENTER**.
   Recording stops for all batch groups. The report function (/M1 and /PM1 options) also stops.



- **Stopping Recording from Batch Single Mode**

  1. Press **STOP**.
     The stop recording screen appears.
  2. Use the **arrow keys** to move the cursor to **Yes**, and press **DISP/ENTER**.
     Recording stops for the batch group. When all batches stop recording, the report function (/M1 and /PM1 options) also stops.



- **Automatically Saving Data**
  For information on automatically saving data with the Multi Batch function, see section 1.1.
  For details on the operating procedure, see section 6.4 in the *User's Manual*.

- **Manually Saving Data**
  For information on manually saving data with the Multi Batch function, see section 1.1.
  For details on the operating procedure, see section 6.4 in the *User's Manual*.

- **Saving Selected Data or All Data Stored in Internal Memory by Using Keys**
  For information on saving selected data or all data stored in internal memory by using keys with the Multi Batch function, see section 1.1.
  For details on the operating procedure, see section 4.8 in the *User's Manual*.

3.2 Starting, Stopping, and Resetting Computations (/M1 and /PM1 Options)

- All computations start and stop together at the same time. You cannot start or stop computations for each batch group separately.
- You can reset the values calculated on computation channels separately for each batch group.
- When you reset a calculated value, the flags in use are also reset to zero.

Procedure

- **Starting Recording and Computation Simultaneously**
  You can start recording and computation simultaneously by using the START key (Math start action) when Math start is set to Start or Reset+Start. For the operating procedure, see section 9.4 in the *User's Manual*.

  When recording is started (see section 3.1), computation also starts at the same time.

- **Starting Only the Computation**
  Follow the procedure below when the batch overview mode screen is displayed.

  1. In operation mode, press **FUNC**.
     The FUNC key menu appears.
  2. Press the **Math start** soft key.
     Computation starts, and the computation icon is displayed in the status display section.

- **Stopping the Computation**
  Follow the procedure below when the batch overview mode screen is displayed.

  1. In operation mode, press **FUNC**.
     The FUNC key menu appears.
  2. Press the **Math stop** soft key.
     Computation stops, and the computation icon in the status display section disappears.

Note

- Stopping recording does not simultaneously stop computations.
- When you stop computations, the calculated value for computation channels is retained as the value held immediately prior to computation stopping. When recording, this retained value is recorded.

- **Resetting Calculated Values**

  Starting Recording and Resetting and Starting a Computation All at the Same Time
  For information on starting recording and resetting and starting a computation all at the same time, see section 1.1.

  Resetting the Values Calculated on All Computation Channels
  Follow the procedure below when the batch overview mode screen is displayed.

  1. Press **FUNC**.
     The FUNC key menu appears.
  2. Press the **Math reset** soft key.
     The values calculated on all computation channels are reset, and all flags are cleared to zero.

Resetting the Values Calculated on the Selected Batch Group's Computation Channels

Follow the procedure below when the batch single mode screen is displayed.

1. Press **FUNC**.
The FUNC key menu appears.

2. Press the **Math reset** soft key.
The values calculated on all computation channels* for the displayed batch group are reset.
Only the flags being used on the computation channels are cleared to zero.
* The computation channels registered to the batch group's display group.

3.3 Switching Between Batch Overview Mode and Batch Single Mode

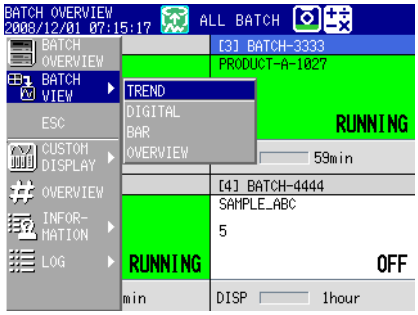
Procedure

- **Switching From Batch Overview Mode to Batch Single Mode**

  When Batch Overview Is Displayed

  1. Use the **arrow keys** to select a batch group.
     The selected batch group's batch identification bar is displayed in blue.

  2. Press **DISP/ENTER** to open the display selection menu.
  3. Use the **arrow keys** to select **BATCH VIEW**.
  4. Press the **right arrow key** to open the submenu.
  5. Use the **up and down arrow keys** to select a display type, and press **DISP/ENTER**.
     The display changes to show only the selected batch group in the display type selected from the submenu.



  When Any Screen Other Than Batch Overview in Batch Overview Mode Is Displayed

  You cannot perform step 1 of this procedure. Instead, the batch group already selected on the batch overview is used for steps 2 to 5.

- **Switching From Batch Single Mode to Batch Overview Mode**

  Follow the procedure below when the batch single mode screen is displayed.

  1. Press **DISP/ENTER** to open the display selection menu.
  2. Use the **arrow keys** to select **BATCH OVERVIEW**, and press **DISP/ENTER**.
     The batch overview is displayed.

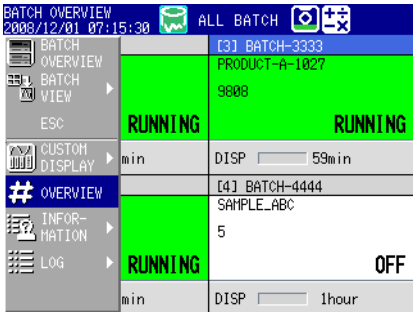
3.4 Using Batch Overview Mode

Follow the procedure below when the batch overview mode screen is displayed.

Procedure

- **Opening the Display**

  1. Press **DISP/ENTER** to open the display selection menu.
  2. Use the **arrow keys** to select a menu item. When there is a submenu, select a submenu item, and press **DISP/ENTER**.
     The selected display appears.



BATCH OVERVIEW
For operating instructions, see section 3.3.

CUSTOM DISPLAY
For operating instructions, see *IM04L41B01-04E*.

OVERVIEW
Displays the status of all channels.
For operating instructions, see section 4.4 in the *User's Manual*.

ANNUNCIATOR
For operating instructions, see section 3.12 in the *User's Manual*.

INFORMATION
The following items can be selected from the submenu.
MODBUS CLIENT, MODBUS MASTER, RELAY, REPORT DATA, COLUMN BAR, and EVENT SWITCH.
For operating instructions, see section 4.5 in the *User's Manual*. Also, see section 4.10 in the *DX1000/DX1000N User's Manual* and section 4.11 in the *DX2000 User's Manual*.

You can also select the following methods to save data from the information submenu.
M.SAMPLE SAVE, REPORT SAVE, and ALL SAVE.
For operating instructions, see section 4.8 in the *User's Manual*.

LOG
The following logs can be selected from the submenu and displayed.
Login log,*1 error log, communication log, FTP log, e-mail log, web log, SNTP log, DHCP log, modbus status log, operation log,*2 and change settings log.*2
*1 Only on DXs without the /AS1 advanced security option
*2 Only on DXs with the /AS1 advanced security option
For display information, see section 4.9 in the *User's Manual*.

- **Loading Display and Event Data**

  Even when in batch overview mode, you can use the following procedure to load display or event data and display the corresponding historical trend.

  MENU (to switch to setting mode), and select the **File** tab > **Load display data** or **Load event data** > press the **CF** or **USB** soft key > select the file and press **DISP/ENTER**

  Take note of the following points regarding loading of data.

  - You can load any batch group's data.
  - The historical trend is displayed on batch group 1's historical trend screen. When the display is split into two windows, batch group 1's trend is displayed as the current trend.
  - If you select Exit from the display selection menu and finish displaying the historical trend, the DX returns to batch overview mode.

- **Using the FUNC Key**

  You can use the FUNC key for the following operations. For operating procedures, see the reference for each respective operation. Entries marked with a * function the same as in batch single mode.

	Operation Name	Description	Reference
*	Alarm ACK	Executes alarm acknowledgement for all activated alarms.	Section 3.8 in the *User's Manual*.
*	Alarm display reset	Resets the alarm display.	Section 3.12 in the *User's Manual*.
*	Media eject	Puts the external memory into a state in which it can be safely removed from the DX.	*Operation Guide*.
*	Snapshot	Saves the screen image data from the active display to a CF card (in PNG format).	Section 6.6 in the *User's Manual*.
*	Manual sample	Saves the instantaneous values of all channels.	Section 6.5 in the *User's Manual*.
*	Save stop	Aborts the manual data saving operation in progress.	Section 4.8 in the *User's Manual*.
	Math start/stop	Starts or stops computations on all computation channels.	Section 3.2 in this manual.
	Computation reset	Resets computed results for all computation channels.	Section 3.2 in this manual.
*	Math ACK	Clears the computation data dropout display.	Section 9.4 in the *User's Manual*.
*	Edge switch	Sets the event edge switch to on.	Section 7.1 in the *User's Manual*.
*	Timer reset	Resets the relative timer.	Section 7.1 in the *User's Manual*.
*	Match timer reset	Resets the single match time timer.	Section 7.1 in the *User's Manual*.
*	Key lock	Locks or unlocks keys.	Section 8.1 in the *User's Manual*.
*	Logout	Logs off from the DX.	Section 8.3 in the *User's Manual*.
*	Locked ACK	Executes the Locked ACK operation.	*Advanced Security Manual*.
*	Password change	Changes the password used to log on to the DX.	Section 8.3 in the *User's Manual*.
	Text field	Displays the text field for the batch group that you select.	Section 3.8 in this manual.
*	Builder screen	Displays the custom display's builder screen.	*IM04L41B01-04E*.
*	Favorite registration	Registers the current display as a favorite.	Section 3.7 in this manual.
*	Standard display	Registers the current display as the standard DX display.	Section 5.14 (DX1000) Section 5.15 (DX2000) in the *User's Manual*
	System info	Displays the system information screen.	Section 2.5 in the *User's Manual*.
	Network info	Displays the network information screen.	Section 2.5 in the *User's Manual*.
*	SNTP	Synchronizes the DX's time with an SNTP server.	Section 1.8 in the *Communication Manual*.
*	E-Mail start/stop	Starts or stops e-mail transmission.	Section 1.4 in the *Communication Manual*.
*	E-Mail test	Confirms sending of e-mail and the details of the transmission.	Section 1.4 in the *Communication Manual*.
*	FTP test	Checks the connection between the DX and the FTP server.	Section 1.7 in the *Communication Manual*.

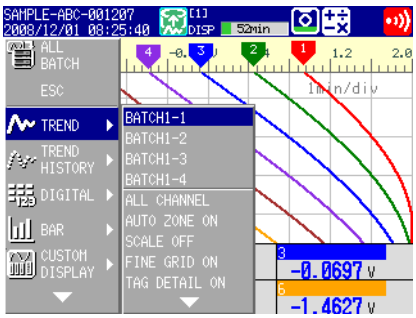
3.5 Using Batch Single Mode

Follow the procedure below when the batch single mode screen is displayed. In batch single mode, only the selected batch group's data is displayed.

Procedure

- **Opening the Display**

  1. Press **DISP/ENTER** to open the display selection menu.
  2. Use the **arrow keys** to select a menu item. When there is a submenu, select a submenu item, and press **DISP/ENTER**.
     The selected display appears.



TREND, DIGITAL, and BAR
For operating instructions, see section 4.2 in the *User's Manual*.

CUSTOM DISPLAY
For operating instructions, see *IM04L41B01-04E*.

OVERVIEW
Displays the status of all channels registered to the batch group.
For operating instructions, see section 4.4 in the *User's Manual*.

ALARM SUMMARY, MESSAGE SUMMARY, and MEMORY SUMMARY
For operating instructions, see sections 4.6, 4.7, and 4.8 in the *User's Manual*.

4-PANEL
For operating instructions, see section 4.10 in the *DX2000 User's Manual*.

- **Loading Display and Event Data**

  You can use the following procedure to load display or event data and display the corresponding historical trend.

  Press **MENU** (to switch to setting mode), and select the **File tab** > **Load display data** or **Load event data** > press the **CF** or **USB** soft key > select the file and press **DISP/ENTER**

  Take note of the following points regarding loading of data.
  - You can load any batch group's data.
  - Whether you load the data for the currently displayed batch group or another batch group, the currently displayed batch group does not change.

- **Using the FUNC Key**

  You can use the FUNC key for the following operations. For operating procedures, see the reference for each respective operation. Entries marked with a † function the same as in batch overview mode.

	Operation Name	Description	Reference
†	Alarm ACK	Executes alarm acknowledgement for all activated alarms.	Section 3.8 in the *User's Manual*.
†	Alarm display reset	Resets the alarm display.	Section 3.12 in the *User's Manual*.
	Message	Writes messages for the selected batch group.	Section 3.6 in this manual.
	Free message	Writes messages for the selected batch group.	Section 3.6 in this manual.
†	Media eject	Puts the external memory into a state in which it can be safely removed from the DX.	*Operation Guide*.
†	Snapshot	Saves the screen image data from the active display to a CF card (in PNG format).	Section 6.6 in the *User's Manual*.
†	Manual sample	Saves the instantaneous values of all channels.	Section 6.5 in the *User's Manual*.
	Save display data	Saves display data for the selected batch group.	Section 3.1 in this manual.
	Save event data	Saves event data for the selected batch group.	Section 3.1 in this manual.
†	Save stop	Aborts the manual data saving operation in progress.	Section 4.8 in the *User's Manual*.
	Computation reset	Resets the computed results of all computation channels for the selected batch group.	Section 3.2 in this manual.
†	Math ACK	Clears the computation data dropout display.	Section 9.4 in the *User's Manual*.
†	Edge switch	Sets the event edge switch to on.	Section 7.1 in the *User's Manual*.
†	Timer reset	Resets the relative timer.	Section 7.1 in the *User's Manual*.
†	Match timer reset	Resets the single match time timer.	Section 7.1 in the *User's Manual*.
†	Locked ACK	Executes the Locked ACK operation.	*IM04L41B01-05EN*.
†	Key lock	Locks or unlocks keys.	Section 8.1 in the *User's Manual*.
†	Logout	Logs off from the DX.	Section 8.3 in the *User's Manual*.
†	Password change	Changes the password used to log on to the DX.	Section 8.3 in the *User's Manual*.
	Batch	Sets the batch name and comment for the selected batch group.	Section 6.3 in the *User's Manual*.
	Text field	Displays the text field for the batch group that you select.	Section 3.8 in this manual.
	Builder screen	Switches to builder screen mode.	IM04L41B01-04E.
†	Favorite registration	Registers the current display as a favorite.	Section 3.7 in this manual.
	4-Panel*	Registers the 4-panel configuration and changes the 4-panel display names.	Section 4.10 in the *DX2000 User's Manual*.
†	Standard display	Registers the current display as the standard DX display.	Section 5.14 (DX1000) Section 5.15 (DX2000) in the *User's Manual*
†	SNTP	Synchronizes the DX's time with an SNTP server.	Section 1.8 in the *Communication Manual*.
†	E-Mail start/stop	Starts or stops e-mail transmission.	Section 1.4 in the *Communication Manual*.
†	E-Mail test	Confirms sending of e-mail and the details of the transmission.	Section 1.4 in the *Communication Manual*.
†	FTP test	Checks the connection between the DX and the FTP server.	Section 1.7 in the *Communication Manual*.

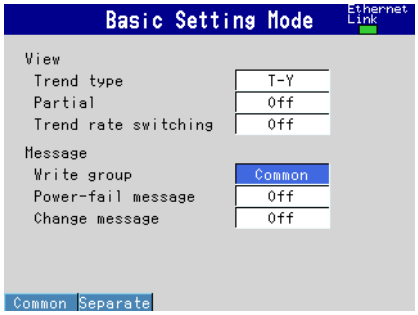
* Only for the DX2000.

3.6 Writing Messages

This procedure shows how to write messages for batch groups.

Setup Screen

- **How to Write Messages**
  Press **MENU** (to switch to setting mode), hold down **FUNC** for 3 s (to switch to basic setting mode), and select the **Environment** tab > **View, Message**.



- **Message Settings**
  For details on the message settings, see section 5.4 in the *User's Manual*.

- **Writing a Message When the DX Recovers from a Power Failure**
  For details on writing a message when the DX recovers from a power failure, see section 5.16 in the *DX1000/DX1000N User's Manual* or section 5.17 in the *DX2000 User's Manual*.

Setup Items

- **Message > Write group**
  This setting applies only for messages that are written using keys.

Setting	Description
Common	Write the message to all the display groups for the batch group currently displayed.
Separate	Write the message only to the visible display group for the batch group currently displayed.

- **Message > Power-fail message**

Setting	Description
On	Automatically writes the message when the DX recovers from a power failure. The message is written to all batch groups that are recording. Example message: 15:12 Power Off 2005/10/25 15:12:57
Off	Disables the feature.

- **Message > Change message**

Setting	Description
On	On DXs with the /AS1 advanced security option, a message is written when the setting mode setup items are changed during memory sampling. On DXs without the /AS1 advanced security option, this setting is invalid.
Off	Disables the feature.

Item	Message
Alarm setting change	AlarmSet
Alarm delay time change	AlmDlaySet
Calibration change	Calibration correction Setting

Procedure

- **Writing Messages or Free Messages**
  For the operating procedure when the batch single mode is displayed, see section 5.4 in the *User's Manual*.

3.7 Using the Favorite Key

For details on the setup screen, settings, and operating procedures, see section 5.15 in the *DX1000/DX1000N User's Manual* and section 5.16 in the *DX2000 User's Manual*.

When You Set Action to Favorite

- You can register displays from both batch overview mode and batch single mode to the favorite key.
- If you register the historical trend's alarm summary or message summary displays to the favorite key, register them so that they come after the historical trend display. If any other screen is registered before them, the DX shows the historical trend display instead of the alarm summary or message summary displays.
- If, due to changes to the DX's settings after you register a display to the favorite key, the batch group number or display group number registered no longer exists, the DX shows the display belonging to the smallest available display group number of the smallest available batch group number.

When You Set Action to History

Mode	Action
Batch overview mode	Does not switch to the historical trend display with the currently displayed data. Note that the DX does not display an error message.
Batch single mode	Switches to the historical trend display for the currently displayed batch group.

3.8 Displaying Text Field Settings

Procedure

- **Procedure in Batch Overview Mode**

  1. In operation mode, press **FUNC**.
     The FUNC key menu appears.
  2. Press the **Text field** soft key.
     The batch group number soft keys are displayed.
  3. Press a batch group number soft key.
     The text field settings appear.

- **Procedure in Batch Single Mode**

  1. In operation mode, press **FUNC**.
     The FUNC key menu appears.
  2. Press the **Text field** soft key.
     The text field settings for the currently displayed batch group appear.

3.9 Changing the FUNC Key Menu and the Display Selection Menu

You can change the contents of the FUNC key menu, which is displayed when you press the FUNC key, and the display selection menu, which is displayed when you press the DISP/ENTER key.

Procedure

- **Changing the FUNC Key Menu**
  For details on the FUNC key menu when the Multi Batch function is enabled, see sections 3.4 and 3.5, “Using the FUNC Key.”

  For the operating procedure to change the FUNC key menu, see section 5.17 in the *DX1000/DX1000N User’s Manual* and section 5.18 in the *DX2000 User’s Manual*. Settings are common to batch overview mode and batch single mode, as well as common to all batch groups.

- **Changing the Display Selection Menu**
  For details on the display selection menu, see section 5.17 in the *DX1000/DX1000N User’s Manual* and section 5.18 in the *DX2000 User’s Manual*.
  BATCH OVERVIEW, BATCH VIEW, and ALL BATCH are already displayed in the topmost section of the display selection menu. You can not change their positions.

  For the operating procedure to change the display selection menu, see section 5.17 in the *DX1000/DX1000N User’s Manual* and section 5.18 in the *DX2000 User’s Manual*. Settings are common to batch overview mode and batch single mode, as well as common to all batch groups.

3.10 Saving to USB Flash Memory (/USB1 Option)

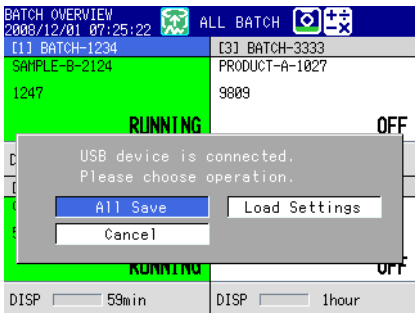
Procedure

- **Connecting USB Flash Memory**

  1. Connect a USB flash memory device to the DX USB port.
     After the message, “USB device has been connected.” appears, you can use the USB flash memory device.
  2. In operation mode, the DX displays selectable memory operations. Use the **arrow keys** to select an operation, and then press **DISP/ENTER**.

Batch Overview Mode

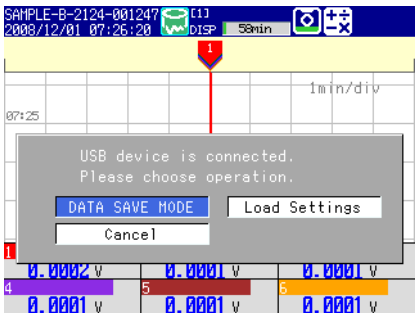
When set to auto save



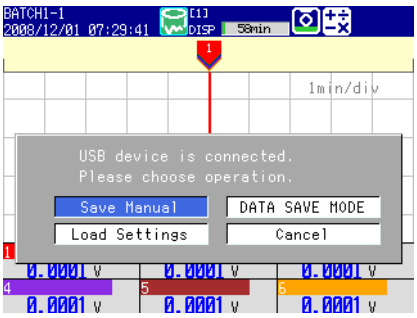
When set to manual save

Batch Single Mode

When set to auto save



When set to manual save



Option	Description
All save	Saves all the saved data in internal memory to the USB flash memory device.
Save manual	Saves unsaved data in internal memory to the USB flash memory device.
Data save mode	Switches to the DATA SAVE MODE display. For instructions on how to save data in internal memory to an external storage medium, see section 4.8 in the *User’s Manual*. This option is only displayed when it is available.* * When the DX is configured to display DATA SAVE MODE on the display selection menu. You can change the options shown on the display selection menu by using the menu customize function.
Load settings	Switches to the setup load display in setting mode. For instructions on how to load setup data, see section 6.9 in the *User’s Manual*.
Cancel	Closes the operation selection window.

- **Removing the USB Flash Memory Device**
  For the operating procedure to remove the USB flash memory device, see section 2.12 in the *User’s Manual*.

Index

Numeric

4-panel display 1-7

A

all save 3-18
applicable recorders iii
auto increment 2-4

B

batches, number of 1-1, 2-4
batch group, operations you can perform on 1-7
batch group, settings for each 2-1
batch groups, settings common to 2-1
batch overview 1-9
batch overview mode 1-8, 3-9
batch single mode 1-10, 3-11
batch text 2-1

C

calculated values, resetting 3-6
change message 3-13
CH set 2-4
computation, starting 3-6
computation, starting and stopping 1-3
computation, stopping 3-6
computation reset 1-7
conventions used in this manual ii

D

data, automatically saving 3-5
data, saving manually 3-5
data file 1-6
data file name 2-5
data save mode 3-18
display data 1-5
display data, loading 3-10, 3-11
display data, recording 1-5
display data, saving 1-7
display group 2-1
display group number 2-4
display groups, number of 1-1
display selection menu, changing 3-17

E

event action 2-1
event data 1-5
event data, loading 3-10, 3-11
event data, recording 1-5
event data, saving 1-7

F

FAST mode 2-1
favorite key 3-15
file header 2-5
file name 1-6
file name examples 1-7
file name sequence number 1-6
FUNC key
  4-Panel* 3-12
  Alarm ACK 3-10, 3-12
  Alarm display reset 3-10, 3-12
  Batch 3-12
  Builder screen 3-10, 3-12
  Computation reset 3-10, 3-12
  E-Mail start/stop 3-10, 3-12
  E-Mail test 3-10, 3-12
  Edge switch 3-10, 3-12
  Favorite registration 3-10, 3-12
  Free message 3-12
  FTP test 3-10, 3-12
  Key lock 3-10, 3-12
  Locked ACK 3-10, 3-12
  Logout 3-10, 3-12
  Manual sample 3-10, 3-12
  Match timer reset 3-10, 3-12
  Math ACK 3-10, 3-12
  Math start/stop 3-10
  Media eject 3-10, 3-12
  Message 3-12
  Network info 3-10
  Password change 3-10, 3-12
  Save display data 3-12
  Save event data 3-12
  Save stop 3-10, 3-12
  Snapshot 3-10, 3-12
  SNTP 3-10, 3-12
  Standard display 3-10, 3-12
  System info 3-10
  Text field 3-10, 3-12
  Timer reset 3-10, 3-12
FUNC key menu, changing 3-17

G

group name 2-4

I

identified strings 2-5

L

lot number digits 2-4

M

manual sampled data 1-5
manual sampled data, recording 1-5
match time timer 1-7, 2-1
memory sampling, starting and stopping 1-3
messages, writing 1-7, 3-14
mode, switching 3-8
multibatch 2-4

N

notes i

R

recordable channels 1-1
recording, starting 3-1
recording, starting and stopping 1-3
recording, stopping 3-4
report, starting and stopping 1-3
report data 1-5
report data, recording 1-5
revisions i

S

settings, changing during recording 2-1
settings, loading 3-18
status display section 1-8, 1-10
storage media, saving to 1-5

T

text field 1-7, 2-5, 3-16
text field number 2-5
timer 1-7, 2-1
trademarks i
trend clear 1-7, 2-1
trend interval, switching 1-7
trend rate, switching 2-1
trip line 2-1, 2-5

U

unsaved data, saving 3-18
USB flash memory 3-18

W

what this manual explains iii